

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A process for the synthesis of ion imprinted polymer particles for solid phase extraction preconcentration of erbium ions ~~which comprises~~ the process consisting essentially of:
 - (a) forming a mixed ligand ternary complex of erbium imprint ion with 5,7-dichloroquinoline-8-ol and 4-vinyl pyridine;
 - (b) dissolving the ternary complex in a suitable porogen to form a pre-polymerizing mixture;
 - (c) combining the mixture of step (b) with a functional monomer and a crosslinking monomer and polymerizing by γ -irradiation or by photochemical and thermal polymerization to obtain a polymer material;
 - (d) grinding and sieving of polymer material obtained in (c) to prepare erbium ion imprinted polymer particles;
 - (e) selective leaching of imprint ion embedded materials in the polymer particles of (d) using a mineral acid.
2. (Currently amended) A The process as claimed in claim 1 wherein the γ -irradiation is carried out as a function of methyl methacrylate (functional monomer) concentration.
3. (Currently amended) A The process as claimed in claim 1 wherein the photochemical polymerization is carried out as a function of time of UV irradiation.
4. (Currently amended) A The process as claimed in claim 1 wherein the thermal polymerization is carried out as a function of ethyleneglycoldimethacrylate (crosslinking monomer) concentration.

5. (Currently amended) A The process as claimed in claim 1 wherein the functional monomer is selected from the group consisting of 4-vinylpyridine and methylmethacrylate.
6. (Currently amended) A The process as claimed in claim 1 wherein the crosslinking monomer comprises ethylene glycol dimethacrylate.
7. (Currently amended) A The process as claimed in claim 1 wherein the reaction is carried out using 2,2'-azobisisobutyronitrile is used as initiator in step (c).
8. (Currently amended) A The process as claimed in claim 1 wherein the grinding and sieving in step (d) is carried out after drying of the erbium ion imprinted polymer materials.
9. (Currently amended) A The process as claimed in claim 1 wherein the mineral acid used for leaching comprises HCl.
10. (New) The process of claim 1, wherein the ion imprinted polymer particles are used for separation of erbium ion from dilute aqueous solution, said process further comprising:
 - adding the polymer particles to a dilute aqueous solution containing erbium ion; and
 - allowing the erbium ion within the dilute aqueous solution to selectively bind the polymer particles for separation of erbium ion from solution.